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     (FILE 'HOME' ENTERED AT 10:40:08 ON 12 DEC 2003)

     FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, CANCERLIT, JAPIO' ENTERED AT
     10:40:48 ON 12 DEC 2003
L1         18411 S (LDL RECEPTOR)
L2           111 S LDL AND (TRANSMEMBRANE DOMAIN)
L3             4 S LDL AND (C TERMINAL TAIL)
L4             1 S L2 AND L3
L5             4 DUPLICATE REMOVE L3 (0 DUPLICATES REMOVED)
L6            75 S L1 AND L2
L7            26 DUPLICATE REMOVE L6 (49 DUPLICATES REMOVED)
L8             4 S L7 AND TERMINAL?
L9             6 S L7 AND TAIL?
L10            4 S L8 AND L6

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Updated Search + Consideration 12/12/03 LVCook

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=> d his

     (FILE 'HOME' ENTERED AT 10:40:08 ON 12 DEC 2003)

     FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, CANCERLIT, JAPIO' ENTERED AT
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L8             4 S L7 AND TERMINAL?
L9             6 S L7 AND TAIL?
L10            4 S L8 AND L6

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L5 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2003:301326 CAPLUS
DN 138:266041
ED Entered STN: 18 Apr 2003
TI Assays for the identification of **LDL** receptor signaling modulators by monitoring the proteolysis of an **LDL** receptor transmembrane domain
IN Herz, Joachim; May, Petra
PA Board of Regents, the University of Texas System, USA
SO PCT Int. Appl., 16 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM G01N033-53
ICS G01N033-567; G01N033-569
CC 2-1 (Mammalian Hormones)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2003031973	A1	20030417	WO 2002-US32271	20021010
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003077672	A1	20030424	US 2001-977155	20011012
PRAI US 2001-977155	A	20011012		

AB The invention provides methods and compns. for modeling and detecting **LDL** receptor transmembrane signaling by detecting proteolysis of an **LDL** receptor transmembrane domain. The method comprises the steps of: (a) providing a sample comprising a cell membrane comprising (I) a polypeptide comprising an **LDL** receptor transmembrane domain fused to a **C-terminal tail**, and (ii) a protease which specifically cleaves the domain and thereby releases the tail from the membrane; (b) incubating the sample under conditions wherein the protease cleaves the domain and thereby releases the tail from the membrane; and (c) detecting a resultant released tail.
ST **LDL** receptor signaling proteolysis assay transmembrane domain
IT Antigens
RL: ANT (Analyte); ANST (Analytical study)
(Heymann's; assays for the identification of **LDL** receptor signaling modulators by monitoring the proteolysis of an **LDL** receptor transmembrane domain)
IT Lipoprotein receptors
RL: ANT (Analyte); ANST (Analytical study)
(**LDL**, MEGF7; assays for the identification of **LDL** receptor signaling modulators by monitoring the proteolysis of an **LDL** receptor transmembrane domain)
IT Lipoprotein receptors
RL: ANT (Analyte); ANST (Analytical study)
(**LDL**; assays for the identification of **LDL** receptor signaling modulators by monitoring the proteolysis of an **LDL** receptor transmembrane domain)
IT Lipoprotein receptors
RL: ANT (Analyte); ANST (Analytical study)
(SORL1; assays for the identification of **LDL** receptor signaling modulators by monitoring the proteolysis of an **LDL**

receptor transmembrane domain)

IT Lipoprotein receptors
RL: ANT (Analyte); ANST (Analytical study)
(VLDL; assays for the identification of **LDL** receptor signaling modulators by monitoring the proteolysis of an **LDL** receptor transmembrane domain)

IT Lipoprotein receptors
RL: ANT (Analyte); ANST (Analytical study)
(apolipoprotein E receptor, ApoER2; assays for the identification of **LDL** receptor signaling modulators by monitoring the proteolysis of an **LDL** receptor transmembrane domain)

IT Gel electrophoresis
(assays for the detection of an **LDL** receptor transmembrane domain proteolysis by SDS-PAGE and immunoblotting)

IT Reporter gene
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(assays for the detection of an **LDL** receptor transmembrane domain proteolysis contg. an intracellular transcription factor domain interacting with a reporter gene)

IT Protein degradation
Signal transduction, biological
(assays for the identification of **LDL** receptor signaling modulators by monitoring the proteolysis of an **LDL** receptor transmembrane domain)

IT Human
(cell line; assays for the detection of an **LDL** receptor transmembrane domain proteolysis by SDS-PAGE and immunoblotting)

IT Immunoassay
(immunoblotting; assays for the detection of an **LDL** receptor transmembrane domain proteolysis by SDS-PAGE and immunoblotting)

IT Protein motifs
(intracellular transcription factor domain; assays for the detection of an **LDL** receptor transmembrane domain proteolysis contg. an intracellular transcription factor domain interacting with a reporter gene)

IT Cell membrane
(membrane-native protease; assays for the identification of **LDL** receptor signaling modulators by monitoring the proteolysis of an **LDL** receptor transmembrane domain)

IT Protein motifs
(transmembrane domain; assays for the identification of **LDL** receptor signaling modulators by monitoring the proteolysis of an **LDL** receptor transmembrane domain)

IT Receptors
RL: ANT (Analyte); ANST (Analytical study)
(.alpha.2-macroglobulin, LRP1b, LRP5 and LRP6; assays for the identification of **LDL** receptor signaling modulators by monitoring the proteolysis of an **LDL** receptor transmembrane domain)

IT Receptors
RL: ANT (Analyte); ANST (Analytical study)
(.alpha.2-macroglobulin; assays for the identification of **LDL** receptor signaling modulators by monitoring the proteolysis of an **LDL** receptor transmembrane domain)

IT 9001-92-7, Protease 338454-52-7, .gamma. Secretase
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(assays for the identification of **LDL** receptor signaling modulators by monitoring the proteolysis of an **LDL** receptor transmembrane domain)

IT 16561-29-8, Phorbol 12-myristate 13-acetate
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(stimulates **LDL** receptor proteolysis; assays for the

detection of an **LDL** receptor transmembrane domain proteolysis by SDS-PAGE and immunoblotting)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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(6) Teesalu; Coordinated induction of extracellular proteolysis systems during experimental autoimmune encephalomyelitis in mice 2001, V159(6), P2227 CAPLUS
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L5 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:863505 CAPLUS
DN 138:268826
ED Entered STN: 14 Nov 2002
TI Evidence of Functional Modulation of the MEKK/JNK/cJun Signaling Cascade by the Low Density Lipoprotein Receptor-related Protein (LRP)
AU Lutz, Christina; Nimpf, Johannes; Jenny, Marcel; Boecklinger, Karl; Enzinger, Christiane; Utermann, Gerd; Baier-Bitterlich, Gabriele; Baier, Gottfried
CS Institute for Medical Biology and Human Genetics, University and Biocenter of Vienna, Vienna, A1030, Austria
SO Journal of Biological Chemistry (2002), 277(45), 43143-43151
CODEN: JBCHA3; ISSN: 0021-9258
PB American Society for Biochemistry and Molecular Biology
DT Journal
LA English
CC 13-2 (Mammalian Biochemistry)
Section cross-reference(s): 2, 3
AB Lipoprotein receptors, such as LRP, have been shown to assemble multi-protein complexes contg. intracellular signaling mols.; however, in vivo, their signaling function is poorly understood. Using a novel LRP receptor fusion construct, a type I transmembrane protein chimera, termed sIgG-LRP (bearing the intracellular **C-terminal tail** of human LRP as recombinant fusion to a transmembrane region plus the extracellular IgG-Fc domain), we here investigated LRP signal transduction specificity in intact cells. First and similar to activated .alpha.2-macroglobulin as agonist of endogenous LRP, expression of sIgG-LRP demonstrated significant apoptosis protection. Second and similar to .alpha.2-macroglobulin-induced endogenous LRP, sIgG-LRP is sufficient to neg. modulate mitogen-induced Elk-1 and cJun (but not NF-.kappa.B) transcriptional activity. Third, expression of sIgG-LRP also impaired cJun transactivation mediated by constitutive active mutants of Rac-1 and MEKK-1. Fourth and unexpectedly, sIgG-LRP expression was found to be assocd. with a marked enhancement of mitogen-induced cJun amino-terminal kinase (JNK) activation. Fifth, confocal microscopic examn. and subcellular fractionation demonstrated that sIgG-LRP and JNK co-localize in transfected cells. Therefore, sIgG-LRP expression was found to significantly impair activation-induced translocation of JNK into the nucleus. Taken together, we here demonstrate that sIgG-LRP protein sequesters activated JNK into the plasma membrane compartment in intact cells, inhibiting nuclear activation of the JNK-dependent transcription factors Elk-1 and cJun.
ST **LDL** receptor related protein Elk1 cJun transcription activation neuron; LRP neuron apoptosis NGF MEKK1 kinase Rac1 signal transduction; JNK2 kinase translocation nucleus LRP T lymphocyte
IT Transcription factors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(AP-1 (activator protein 1); low d. lipoprotein receptor-related protein in modulating NGF-induced Elk-1 and cJun transcriptional activity and in protecting neuronal cells from apoptosis)
IT Transcription factors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(ELK-1; low d. lipoprotein receptor-related protein in modulating NGF-induced Elk-1 and cJun transcriptional activity and in protecting neuronal cells from apoptosis)
IT Cell membrane
Cell nucleus
(JNK in; functional modulation of MEKK/JNK/cJun signaling cascade by low d. lipoprotein receptor-related protein in Jurkat cells and neurons)
IT G proteins (guanine nucleotide-binding proteins)
RL: BSU (Biological study, unclassified); BIOL (Biological study)

(Rac1; functional modulation of MEKK/JNK/cJun signaling cascade by low d. lipoprotein receptor-related protein in Jurkat cells and neurons)
IT Transcriptional regulation
(activation; low d. lipoprotein receptor-related protein in modulating NGF-induced Elk-1 and cJun transcriptional activity and in protecting neuronal cells from apoptosis)
IT Brain
(cerebellum, granular layer; low d. lipoprotein receptor-related protein in modulating NGF-induced Elk-1 and cJun transcriptional activity and in protecting neuronal cells from apoptosis)
IT Nerve, disease
(death; low d. lipoprotein receptor-related protein in modulating NGF-induced Elk-1 and cJun transcriptional activity and in protecting neuronal cells from apoptosis)
IT Signal transduction, biological
T cell (lymphocyte)
(functional modulation of MEKK/JNK/cJun signaling cascade by low d. lipoprotein receptor-related protein in Jurkat cells and neurons)
IT Biological transport
(intracellular, of JNK; functional modulation of MEKK/JNK/cJun signaling cascade by low d. lipoprotein receptor-related protein in Jurkat cells and neurons)
IT Apoptosis
Human
(low d. lipoprotein receptor-related protein in modulating NGF-induced Elk-1 and cJun transcriptional activity and in protecting neuronal cells from apoptosis)
IT Cell death
(neuron; low d. lipoprotein receptor-related protein in modulating NGF-induced Elk-1 and cJun transcriptional activity and in protecting neuronal cells from apoptosis)
IT Receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(.alpha.2-macroglobulin; functional modulation of MEKK/JNK/cJun signaling cascade by low d. lipoprotein receptor-related protein in Jurkat cells and neurons)
IT 146702-84-3, Protein kinase MEKK-1 289899-93-0, JNK2 kinase
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(functional modulation of MEKK/JNK/cJun signaling cascade by low d. lipoprotein receptor-related protein in Jurkat cells and neurons)
IT 9061-61-4, Nerve growth factor
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(low d. lipoprotein receptor-related protein in modulating NGF-induced Elk-1 and cJun transcriptional activity and in protecting neuronal cells from apoptosis)
RE.CNT 65 THERE ARE 65 CITED REFERENCES AVAILABLE FOR THIS RECORD
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L5 ANSWER 3 OF 4 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
AN 2003:326371 BIOSIS
DN PREV200300326371
TI NOVEL SYNAPTIC PROTEIN, SHORT FORM **LDL** RECEPTOR-RELATED PROTEIN (S-LRP) , A MEMBER OF LOW DENSITY LIPOPROTEIN GENE FAMILY IN THE RAT BRAIN.
AU Tian, Q. B. [Reprint Author]; Okano, A. [Reprint Author]; Miyazawa, S. [Reprint Author]; Usuda, N.; Suzuki, T. [Reprint Author]
CS Neuroplasticity, Shinshu Univ Sch Med, Matsumoto, Japan
SO Society for Neuroscience Abstract Viewer and Itinerary Planner, (2002) Vol. 2002, pp. Abstract No. 746.4. http://sfn.scholarone.com. cd-rom. Meeting Info.: 32nd Annual Meeting of the Society for Neuroscience. Orlando, Florida, USA. November 02-07, 2002. Society for Neuroscience.
DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LA English
ED Entered STN: 16 Jul 2003
Last Updated on STN: 16 Jul 2003
AB We have cloned from rat brain a novel gene, which encoded a new member of low density lipoprotein receptor (LDLR) family protein. The protein, although shorter in length, resembled the **LDL** receptor-related protein (LRP) in its structure, possessing LDLR class A domains, possibly ligand-binding motifs, EGF-like domains, YWTD domains, a single membrane-spanning domain, and a NPXY motif. Thus, we named the protein as short form LDLR-related protein (sLRP). Uniquely, the sLRP possessed a PDZ motif-binding sequence, SQV, at the C-terminal end, and indeed, the protein interacted with postsynaptic density (PSD)-95 and synapse-associated protein (SAP) 97 via its **C-terminal tail** sequence. Interaction with these PDZ domain-containing proteins suggests the association with PSD and coupling of N-methyl D aspartate (NMDA) type and alpha-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid (AMPA)-type glutamate receptor complexes via PSD-95 and SAP97, respectively. Immunihistochemistry using antibody against carboxyl-terminal protein revealed dendritic localization of the sLRP protein at the light microscopic level. The mRNA was also localized to the dendrite and its expression was up-regulated by kainic acid treatment of the animals. These data suggest a unique role of sLRP in the synaptic region via an endocytosis of certain ligands.
CC General biology - Symposia, transactions and proceedings 00520
Biochemistry studies - General 10060
Biochemistry studies - Nucleic acids, purines and pyrimidines 10062
Biochemistry studies - Proteins, peptides and amino acids 10064
Biochemistry studies - Lipids 10066
Endocrine - Neuroendocrinology 17020
Nervous system - Physiology and biochemistry 20504
IT Major Concepts
Biochemistry and Molecular Biophysics; Nervous System (Neural Coordination)
IT Parts, Structures, & Systems of Organisms
brain: nervous system
IT Chemicals & Biochemicals
synaptic protein; short form **LDL** receptor-related protein [S-LRP]; low-density lipoprotein [**LDL**]; low density lipoprotein receptor; N-methyl-D-aspartate [NMDA]; alpha-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid [AMPA]; mRNA [messenger RNA]
ORGN Classifier
Muridae 86375
Super Taxa
Rodentia; Mammalia; Vertebrata; Chordata; Animalia
Organism Name
rat (common)
Taxa Notes

Animals, Chordates, Mammals, Nonhuman Vertebrates, Nonhuman Mammals, Rodents, Vertebrates

RN 6384-92-5 (N-methyl-D-aspartate)
6384-92-5 (NMDA)
77521-29-0 (alpha-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid)
77521-29-0 (AMPA)

L5 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1989:492446 CAPLUS
DN 111:92446
ED Entered STN: 16 Sep 1989
TI Surface location and high affinity for calcium of a 500-kd liver membrane protein closely related to the **LDL**-receptor suggest a physiological role as lipoprotein receptor
AU Herz, Joachim; Hamann, Ute; Rogne, Sissel; Myklebost, Ola; Gausepohl, Heinrich; Stanley, Keith K.
CS Eur. Mol. Biol. Lab., Heidelberg, D-6900, Fed. Rep. Ger.
SO EMBO Journal (1988), 7(13), 4119-27
CODEN: EMJODG; ISSN: 0261-4189
DT Journal
LA English
CC 6-3 (General Biochemistry)
Section cross-reference(s): 13
AB A cell surface protein that is abundant in liver and has close structural and biochem. similarities to the low-d. lipoprotein (**LDL**) receptor is described. The cDNA was characterized and the complete sequence of the protein contg. 4544 amino acids is presented. From the sequence a remarkable resemblance to the **LDL**-receptor and EGF precursor is apparent. Three types of repeating sequence motifs entirely account for the extracellular domain of the mol. These are arranged in a manner resembling 4 copies of the ligand-binding and the EGF-precursor-homologous region of the **LDL**-receptor. Following a proline-rich segment of 17 amino acids are found 6 consecutive repeats with close homol. to EGF. A single membrane-spanning segment precedes a **C-terminal tail** of 100 amino acids. This contains 2 7-amino acid sequences with striking homol. to the cytoplasmic tail of the **LDL**-receptor in the region that contains the signal for clustering into coated pits. The mRNA for this protein is most abundant in liver, brain, and lung. By using an antibody raised against a 13-amino-acid peptide corresponding to the deduced amino acid sequence of the C-terminus of the protein, its existence on the cell surface and its abundance in liver was demonstrated. Like the **LDL** receptor, this protein also strongly binds Ca, a cation absolutely required for binding of apolipoproteins B and E to their receptors. It is proposed that this **LDL**-receptor related protein (LRP) is a recycling lipoprotein receptor with possible growth-modulating effects.
ST protein low density lipoprotein receptor sequence; low density lipoprotein receptor liver membrane; sequence low density lipoprotein receptor liver; EGF precursor lipoprotein receptor liver; calcium binding protein liver lipoprotein receptor
IT Receptors
RL: BIOL (Biological study)
(for low-d. lipoprotein, low-d. lipoprotein receptor-related protein LRP of liver membrane homol. with)
IT Cell membrane
(low-d. lipoprotein receptor-related protein LRP of liver, characterization and function of)
IT Liver, composition
(low-d. lipoprotein receptor-related protein LRP of membrane of, characterization and function of)
IT Brain, composition
Intestine, composition
Lung, composition
Muscle, composition
Organ
(low-d. lipoprotein receptor-related protein LRP-specifying mRNA of)
IT Protein sequences
(of low-d. lipoprotein receptor-related protein LRP, of human liver membrane, complete)

IT Proteins, specific or class
RL: BIOL (Biological study)
(LRP (low-d. lipoprotein receptor-related protein), of liver membrane, of human , surface distribution and characterization and function of)

IT Proteins, specific or class
RL: PRP (Properties)
(LRP (low-d. lipoprotein receptor-related protein), pre-, amino acid sequence of, of liver membrane of human)

IT Lipoproteins
RL: BIOL (Biological study)
(low-d., receptor for, low-d. lipoprotein receptor-related protein LRP of liver membrane homol. with)

IT Ribonucleic acids, messenger
RL: PROC (Process)
(protein LRP (low-d. lipoprotein receptor-related protein)-specifying, tissue distribution of, in mouse)

IT 122303-69-9, Glycoprotein LRP (human clone LRP-9/LRP-4/LRP-6/LRP-8 protein moiety reduced) 122303-70-2
RL: PRP (Properties)
(amino acid sequence of)

IT 7440-70-2, Calcium, biological studies
RL: BIOL (Biological study)
(low-d. lipoprotein receptor-related protein LRP of human brain and liver membrane affinity for)

=>

L10 ANSWER 10 OF 12 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 3
AN 1997:675278 CAPLUS
DN 127:344162
TI The fate of lipoprotein cholesterol entering the arterial wall
AU Kruth, Howard S.
CS Section of Experimental Atherosclerosis, National Heart, Lung, and Blood Institute, National Institutes of Health, Bethesda, MD, 20892-1422, USA
SO Current Opinion in Lipidology (1997), 8(5), 246-252
CODEN: COPLEU; ISSN: 0957-9672
PB Rapid Science Publishers
DT Journal; General Review
LA English
CC 13-0 (Mammalian Biochemistry)
AB A **review** with 68 refs. Recent findings have helped to explain the fate of cholesterol entering the arterial wall. **LDL** can undergo both fusion and aggregation. These changes may cause increased retention of **LDL** in lesion connective tissue matrix and **LDL** uptake by macrophages. In the cornea, apparent fusion of **LDL** occurs in the absence of macrophages. Mast cells may be important in **LDL** fusion, as mast cell-derived proteases can induce fusion of **LDL** through **proteolysis** of apolipoprotein B. **LDL** in arterial wall atherosclerotic lesions was found to be sialic acid-poor and ceramide-enriched. These chem. changes promote **LDL** aggregation. Processes that may function to remove cholesterol from the arterial wall have been reported. Macrophage-produced apolipoprotein E can mediate macrophage cholesterol efflux and macrophages can convert cholesterol to 27-oxygenated products that macrophages excrete. Alternately, another oxygenated sterol, 7-ketocholesterol, impairs macrophage cholesterol efflux. In addn., mast-cell derived chymase proteolyzes HDL and reduces its capacity to stimulate cholesterol efflux.
ST **review** lipoprotein cholesterol transport artery atherosclerosis
IT Artery
(fate of lipoprotein cholesterol entering arterial wall)
IT Lipoproteins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(fate of lipoprotein cholesterol entering arterial wall)
IT Atherosclerosis
Biological transport
Fusion, biological
Macrophage
Molecular association
(fate of lipoprotein cholesterol entering arterial wall in relation to)
IT Lipoproteins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(low-d.; fate of lipoprotein cholesterol entering arterial wall)
IT 57-88-5, Cholesterol, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(fate of lipoprotein cholesterol entering arterial wall)

L10 ANSWER 10 OF 12 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 3
AN 1997:675278 CAPLUS
DN 127:344162
TI The fate of lipoprotein cholesterol entering the arterial wall
AU Kruth, Howard S.
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SO Current Opinion in Lipidology (1997), 8(5), 246-252
CODEN: COPLEU; ISSN: 0957-9672
PB Rapid Science Publishers
DT Journal; General Review
LA English
CC 13-0 (Mammalian Biochemistry)
AB A **review** with 68 refs. Recent findings have helped to explain the fate of cholesterol entering the arterial wall. **LDL** can undergo both fusion and aggregation. These changes may cause increased retention of **LDL** in lesion connective tissue matrix and **LDL** uptake by macrophages. In the cornea, apparent fusion of **LDL** occurs in the absence of macrophages. Mast cells may be important in **LDL** fusion, as mast cell-derived proteases can induce fusion of **LDL** through **proteolysis** of apolipoprotein B. **LDL** in arterial wall atherosclerotic lesions was found to be sialic acid-poor and ceramide-enriched. These chem. changes promote **LDL** aggregation. Processes that may function to remove cholesterol from the arterial wall have been reported. Macrophage-produced apolipoprotein E can mediate macrophage cholesterol efflux and macrophages can convert cholesterol to 27-oxygenated products that macrophages excrete. Alternately, another oxygenated sterol, 7-ketocholesterol, impairs macrophage cholesterol efflux. In addn., mast-cell derived chymase proteolyzes HDL and reduces its capacity to stimulate cholesterol efflux.
ST **review** lipoprotein cholesterol transport artery atherosclerosis
IT Artery
(fate of lipoprotein cholesterol entering arterial wall)
IT Lipoproteins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(fate of lipoprotein cholesterol entering arterial wall)
IT Atherosclerosis
Biological transport
Fusion, biological
Macrophage
Molecular association
(fate of lipoprotein cholesterol entering arterial wall in relation to)
IT Lipoproteins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(low-d.; fate of lipoprotein cholesterol entering arterial wall)
IT 57-88-5, Cholesterol, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(fate of lipoprotein cholesterol entering arterial wall)